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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/802,919

03/18/2004

Evan C. Unger

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EXAMINER

AUDET, MAURY A

ART UNIT

PAPER NUMBER

1654

MAIL DATE

DELIVERY MODE

09/24/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/802,919	Applicant(s) UNGER ET AL.	
	Examiner Maury Audet	Art Unit 1654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 105-116 is/are pending in the application.
- 4a) Of the above claim(s) 111-116 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 105-110 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

### DETAILED ACTION

The present application has been transferred from former Examiner Young to the present Examiner.

Applicant's amendment and response of 7/18/07 are acknowledged.

It is noted that the only former claim pending, to which the Examiner cited 16 separate 102 rejections, was the following:

1. (original) A method for delivering a compound [elected peptide] into a cell comprising administering to the cell a composition which comprises the compound to be delivered and an organic halide.

Applicant has now substantially amended the claims, with newly cited halide and protein compounds, in vivo steps, and added steps not previously claimed (ultrasound); canceling former claim 1 and added new claims 105-116. All the new claims have been amended beyond the originally filed subject matter which would constitute an entirely new search. However, this Examiner is willing to examine new claim 105-110 (now reciting new specific organic halides and various peptides) on the merits – only because the invention is still so broad that the use of any protein/organic halide, including those recited, is deemed obvious based on the combination of cited references, and no new search is required. *Should Applicant end up providing evidence why this is not so, the Examiner will retract the above, since a substantial new search to try to find either specific halides (e.g. claim 105-107), or specific combinations of both specific halides and specific proteins (claims 108-110), which have been amended into the claims to work one or*

*more of the previously cited references, will be necessitated by such an argument.* See new 35 USC 103 rejection below, necessitated by amendment.

Claims 111-116 are withdrawn from consideration for the reasons set forth, namely, as to the new element of requiring ultrasound to carry out the method in whole or part. Applicant could have considered filing this either at the time of the first preliminary amendment, or via a second preliminary amendment. Should claims 110-116 be desired subject matter, Applicant may consider a continuation application herefrom.

#### ***Elections/Restrictions***

As noted previously:

Applicant's election with traverse of Group VI from Restriction No. 1, drawn to a method for delivering protein into a cell *in vivo*, and Group I from Restriction No. 2, drawn to a method for using a halogenated alkyl chain to deliver a protein into a cell in the reply filed on August 21, 2006 is acknowledged. The traversal is on the ground(s) that restriction between Groups is not necessary because they are not so distinctly different as to be an undue burden to examine. This is not found persuasive because the main criteria in restricting, the location of the target cells (*in vitro* vs. *in vivo*) and the compounds to be delivered to the target cells both encompass widely divergent fields of art to be searched. In the former case cells *in vitro* can be subjected to a much wider array of chemical compounds than cells *in vivo*, mainly by virtue of the fact that in order to provide chemical compounds to cells *in vivo* the compounds and method of delivery must both be compatible with whole-organism pharmacological and physiological considerations, such as safety and tolerance by other cells in the organism as well as the possibility that the whole

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organism will reject or excrete the compounds in question. In regards the chemical compounds being delivered, the numerous types of bioactive molecules encompassed by the original claim set is so broad as to include compounds with greatly differing chemical structures and hence biochemical and physiological activities.

In light of the fact, however, that the different species of compounds to be delivered to cells *in vivo* are already known in the art to be physiologically and pharmacologically acceptable as well as being more amenable and accessible to being searched by the Examiner, the restriction to the delivery of only proteins to a cell *in vivo* is withdrawn, although the restriction to the target cells being *in vivo* is upheld.

The traversal of the restriction to Group I, Restriction No. 2, is not found persuasive because the array of compounds encompassed by the original claim set is so broad as to include types with widely divergent chemical structures and hence fields of search as well as differing biochemical and physiological properties.

The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 102 (b)***

The original rejection of original claim 1 by 16 separate 102(b) references, has now necessitated that these be applied under 35 USC 103, based on Applicant's amendment of claims.

Applicant reviews what each reference does not teach over the now materially altered/added AMENDED claims and concludes that:

To summarize, some of the references cited by the Examiner describe the use of specific organic halides recited in claim 105, but fail to teach or suggest the use of any

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proteins. Some other references describe the delivery of active compounds based on proteins but fail to teach or suggest the use of any specific organic halides recited in claim 105. Some other references fail to teach or suggest both the use of specific organic halides and of proteins, as required by claim 105. None of the references describes or suggests both the use of specific organic halides and of proteins, as required by claim 105.

Even though claim 1 is no longer expressly taught, what Applicant's conclusory arguments clearly set forth as to the 16 references is that the art is SATURATED as to the three very simple elements of the present invention:

1. Proteins in compositions;
2. Organic halides in compositions;
3. Methods of transferring compositions with proteins or organic halides, into cells.

Which sets up the backdrop for the presently applied 103 rejection, necessitated by amendment.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 105-110 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of the references of Group I below, either alone or combination; or in view of and in combination with any one or more of the references of Group II below [all references below were previously cited in the previous action under 102(b), and now grouped for clarity, based on how Applicant has summarized the teachings of each as related to the presently claimed, amended invention].

**I. References to halides AND proteins (including enzymes), but not the now expressly claimed halides of claims 105-107 and/or proteins of claims 108-110**

Harth H. et al. (1972) in US Patent No. 3,689,638. Harth et al. disclose the use of chloroform and enzymes in toothpaste formulations (column 6, line 58). It can be appreciated that the enzymes contained in the toothpaste will contact the epithelial cells and that chloroform (an alkyl halide) is therefore present at the time and place where the delivered protein enzymes can be expected to contact cells.

Cella J. A. et al. (1975) in US Patent No. 3,885,028. Cella et al. disclose the use of chloroform in toothpaste formulations (column 2, line 22) in which enzymes (amylases, dextranases, lysozyme, and proteases, such as pepsin, trypsin, chymotrypsin, papaine, bromeline, and bacterial or fungal proteases, lipases) and mixtures of such enzymes (column 1, lines 47-53). Harth also teaches (column 2, line 7) the use of polyvinyl chloride in toothpaste formulas that contain enzymes. It can be appreciated that the enzymes contained in the toothpaste will contact the epithelial cells and that chloroform and PVC (alkyl halides) are therefore present at the time and place where the delivered compound can be expected to enter the target cell.

Grimm J. E. (1976) in US Patent No. 3,957,964. Grimm teaches the use of chloroform in toothpaste formulations (column 3, line 8) in which enzymes are formulated (column 5, lines 15). Grimm also teaches (column 2, line 48) the use of vinyl chloride, polyvinyl chlorides and polyvinylidene chlorides in toothpaste formulas that contain the enzymes. It can be appreciated that the enzymes contained in the toothpaste will contact the epithelial cells and that chloroform and VC/PVC components (alkyl halides) are therefore present at the time and place where the delivered compounds, including the enzymes, can be expected to contact epithelial cells.

Pader M. I & II (1979) in US Patents Nos. 4,152,418 AND 4,178,362. Pader teaches the use of chloroform and enzymes in toothpaste formulations (Example 4; column 17, line 54- column 18, line 42) disclosed in the '418 patent and similarly in the '362 patent. It can be appreciated that the enzymes contained in the toothpaste will contact the epithelial cells and that chloroform (an alkyl halide) is therefore present at the time and place where the delivered compounds, including the enzymes, can be expected to contact epithelial cells.

Higuchi, T. (1975) in US Patent No. 3,891,757. Higuchi teaches the use of halogenated hydrocarbons in topical compositions comprising trichloroethanol and trifluoroethanol as solvents/penetrants (Abstract) and column 2, lines 2-10. In the list of suitable medicaments to be carried and delivered by these halogenated solvents Higuchi teaches "Protein drugs such as insulin" (item 1, column 3, line 26) as well as other bio-active species which encompass proteins and peptides, such as antigens and vaccines (items 2 and 3, column 3). In addition Higuchi teaches (Examples 4 and 5, column 9, lines 10-23) the preparation of aerosol liquid sprays comprising trichlorofluoromethane and dichloro-difluoromethane in addition to the active ingredients and trichloroethanol. It can be appreciated that the chlorofluorocarbons will be



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miscible with the other components of the preparation and can be expected to be present in the droplets of applied material when it contacts the targeted epidermal cells. Furthermore, in claims 1 and 2 Higuchi claims the use of the penetrants trichloroethanol and trifluoroethanol with topical local anesthetics. It can be appreciated that chloroform is a topical anesthetic and can be so delivered.

**II. References to halide-compound compositions for cellular effect, some halides of which may taught in said references as now in amended claims 105-107; but not to proteins.**

Stanko, G. L. (1962) in US Patent No. 3,039,929. Stanko discloses the use of various fluorinated hydrocarbons in a formulation of isoproteronol and alcohol to be administered as a fine particle mist to patients in need of bronchodilation. In column 2, lines 7- 13 Stanko teaches that the physiologically active ingredient, isoproteronol, is soluble in short chain alcohols such as ethanol, which in turn is miscible with liquid, compressed-gas fluorinated hydrocarbons. These fluorinated hydrocarbons, of one or two carbons bound to fluorines and/or chlorines, are referred to by the brand names Freons, isotron, and Genetron. Example I, column 3, and Examples II and III, column 4, and Examples IV – X, columns 5 and 6, teach the use of Freon 11, 12 and 114 in particular. Stanko further teaches that the fluorinated hydrocarbons comprise “about 50% volume per volume of the final aerosol mixture.” The use of liquefied fluorinated hydrocarbons in formulating the aerosol medicament is claimed in claims 1 – 10. The active ingredient, isoproteronol, is thus delivered to the epithelial cells of the bronchi and lungs in droplets of alcohol/fluorinated hydrocarbon. It can be appreciated that the droplets containing the bronchodilator contact the epithelial cells and that fluorinated hydrocarbons (organic halides) are

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therefore present at the time and place where the delivered compounds can be expected to enter the target cells.

Kraus, K. J. (1962) in US Patent No. 3,050,443. Kraus discloses the use of Freon 12 (dichlorodifluoromethane) in an aerosol preparation for headache relief. In column 3, lines 10-33, Kraus teaches that a surprising benefit of using Freon was that it allowed the reduction, but not elimination, of chloroform in the formulation for the aerosol droplets administered to the patient by inhalation. The active ingredient to be delivered in this medicament was spirits of ammonia, the two organic halides, chloroform and the fluoridated hydrocarbon Freon, being solvent carriers, and in the case of Freon, a propellant as well. It can be appreciated that Freon is completely miscible with chloroform and was thus present when the droplets of medicament contacted the epithelial cells in the bronchi and lungs of the patient. At the point of contacting the cell, any inherent properties the organic halides exert in aiding the penetration of the active ingredient would then come into play.

Spero, B. (1963) in US Patent No. 3,073,743. Spero discloses the use of both fluorinated hydrocarbons (Freon) and chlorobutanol in compositions for delivering acetone and other active ingredients to various tissues, including respiratory tissues by inhalation and skin (cow udder) cells by lotion or ointment. Example 18, column 12, lines 51 –line 7, column 13, teach the use of two fluorinated hydrocarbons in formulating an metered-delivery aerosol preparation for treating asthmatic or allergic conditions. It can be appreciated that the fluorinated hydrocarbons, being miscible in the alcohol carrier, would be present at the point where the droplets contacted the epithelial cells lining the respiratory tract. Spero further teaches a similar application of fluorinated hydrocarbons in the same system, modified to deliver an active ingredient in powder

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form (Example 19, Column 13, lines 8-44). Finally, Spero teaches the use of the organic halide, chlorobutanol (anhydrous) in a topical preparation formulated for application to cows' udders to treat mastitis. The chlorobutanol, whatever its other properties or intended use, would be present and in contact with the epidermal cells of the udder and able to facilitate the penetration into the cells of the other active ingredients of the preparation. In U.S. Patent No. 3, 138,527 (1964) Spero teaches the use of the same organic halides used in analogous fashions to administer similar active ingredients to respiratory tissues (Examples 8 and 9) and to cows' udders (Example 10).

Jederstrom, G. L. (1974) in US Patent No. 3,823,229. Jederstrom teaches the use of fluorinated hydrocarbons in an inhalation composition of theophylline in an alcohol/water mixture (Examples 1 and 2, column 2 and Examples 2, 3, and 4, column 3, and Example 6, column 4). The use of fluorinated hydrocarbons is claimed in claim 1, column 4. It can be appreciated that fluorinated hydrocarbons are miscible in ethyl alcohol and would thus be present when the aerosol droplets contacted the epithelial cells of the respiratory tract. Jederstrom discloses (column 2, lines 59-64) that the particles have "excellent resorption properties in the respiratory tract."

Cook, et al. (1977) in US Patent No. 4,044,126; Cook, et al. (1982) in US Patent No. 4,364,923; and Cook, et al. (1983) in US Patent No. 4,414,209. Cook et al. teach the use of organic halides, including methylene chloride, chloroform, and chlorofluorocarbons of 1-2 carbons in size (column 2, lines 44-67) for the making of solvated corticosteroid clathrates in order to make aerosol-deliverable microparticles of medicaments for respiratory delivery to patients. The use of halogenated hydrocarbons, in general, is taught in column 3, lines 21-25, of

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the 4, 044, 126 patent of 1977, but is recited throughout all three disclosures and claimed in claims 1, 4, 5, 6, 9, and 10. Organic halides are claimed as part of the pharmaceutical compositions of Patent 4, 364,923 in claims 1, 4, 5, 8, 10 and 12. Organic halides are claimed as components of the pharmaceutical compositions of Patent 4,414,209 in claims 1, 5, 6, 8, 9 and 10. It should be appreciated that in addition to the chlorofluoro- or fluorinated hydrocarbons the use of chloroform is claimed in claim 10 of the '209 patent.

Witkowski, et al. (1980) in US Patent No. 4,211,771. Witkowski et al. teach the use of fluorinated hydrocarbons in a nasal spray composition for delivering an anti-viral agent to the respiratory tract. The use of various halomethanes, disclosed as brand names Freons 11, 12 and 14, is taught for delivering the active ingredient in a suitable solvent, in conjunction with surfactants such as fatty acids. It can be appreciated that both the solvents and surfactants are miscible with fluorinated hydrocarbons and the organic halides would thus be present when the aerosol droplets contacted the epithelial cells of the patients.

Golub, et al. (1987) in US Patent No. 4,689,213. Golub et al. teach the use of fluorinated hydrocarbons in a nasal spray composition for delivering an calcium-channel blocking agent to the respiratory tract. In column 2, lines 4-7, Golub et al. teach that the active ingredient, gallopamil, can be dispersed in Freon itself and administered via a metered dose inhaler. It can be appreciated that the fluorinated hydrocarbons would thus be present when the aerosol droplets contacted the epithelial cells of the patients.

Gwaltney, J. M. (1993) in US Patent No. 5,240,694. Gwaltney teaches the use of fluorinated hydrocarbons in delivering nasal/respiratory medicaments dissolved in the liquefied chlorofluorocarbons and delivered via a metered dose inhaler. In addition to the more commonly

used Freons 11, 12, and 114, Gwaltney teaches (column 12, lines 24-36) the use of 1,1,1,2-tetrafluoroethane (HFC-134a) as being a more environmentally friendly carrier for the active ingredients. The aerosol droplets of halogenated hydrocarbons containing the active ingredients would impinge upon the epithelial cells of the nasal membranes with both organic halides and the active ingredients present, especially in light of Gwaltney's inclusion of lipophilic surfactants, including oleic acid, in the formulation. It can be appreciated that the presence of these lipids would aid in the retention of organic halides in the aerosol droplets and thus help provide organic halides to the recipient cell membranes.

Gristina, et al. (1994) in US Patent No. 5,292,513. Gristina teaches the use of fluorinated hydrocarbons in delivering any phagocytosable, biocompatible particle to prime macrophages (Abstract), via a metered dose inhaler. In addition to the more commonly used Freons 11, 12, and 114, and perfluoropentane, Gristina teaches (column 11, lines 2850-36) the use of 1,1,1,2-tetrafluoroethane (HFC-134a) as being a more environmentally friendly carrier for the active ingredients. In this same paragraph Gristina teaches the advantages of using a lipophilic surfactant in the formulation, such as oleic acid. It can be appreciated that a lipophil such as oleic acid would retain organic halides in the aerosol droplets, along with any active components, which may themselves be lipophilic.

Sarzaud, et al. (1996) in US Patent No. 5,558,664. Sarzaud et al. teach the use of fluorinated hydrocarbons in a dermal patch drug delivery device, in which the drug solution containing the active ingredient be mixed with Freon directly. The organic halides, Freons, would thus be presented to the targeted epidermal cells in concert with any molecules included as the active ingredients of the composition.

Love, et al. (2002) in US Patent No. 6,436,368 B1. Love et al. teach the use of fluorinated hydrocarbons a Freon clathrate structure in claim 1, column 3, and claim 5, column 4. The formulation of this clathrate enables the delivery of the corticosteroid beclomethasone dipropionate via inhaler to asthmatics and sufferers of allergic rhinitis.

*It was not clear from any of the references above if the myriad of proteins/halides Applicant has now amended the claims to be narrowed to were specifically taught. Thus, the present rejection of the amended claims is made under 35 USC 103.*

It would be been obvious to one of ordinary skill in the art at the time of the invention to use any of the newly recited proteins/halides for use in a method of delivering a composition comprising a protein and an organic halide into a cell, via the combination of any one or more of the references above, because the references advantageously teach delivering a compound or protein into cells while others teach the delivery of halides into cells, and combining proteins and organic halides into a composition, for delivery into a cell via any means, is well within the skill in the art. The combination of any one or more of the references above, render the present composition and method of transferring the same into a cell, obvious. Including even the routine selection of any of the specific proteins/halides now expressly claimed or for that matter, any not expressly claimed, would have been a matter of routine optimization by one of ordinary skill in peptide medicinal chemistry (PhD). Absent evidence to the contrary of some unexpected result from one of more of the newly recited proteins/halides, which was not readily apparent from the description.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the reference, especially in the absence of evidence to the contrary.

### **Double patenting**

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned

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with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

The rejection of claim 105-110 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 of U.S. Patent No. 6,638,767 B2, is maintained for the reasons of record. Applicant's only argument is that new claim 105 is of different scope than the original claim 1. This Examiner does not disagree that Applicant has modified the scope of the invention to specific peptides and halides. However, mere recitation of known proteins and halides that could be used to carry out the invention does not remove the obviousness of this child over its parent. Applicant's arguments have been considered but are not deemed persuasive, for the reasons of record as well as the skilled artisans understanding of that other known proteins/halides could have been used to carry out the same means. Absent evidence to the contrary of some unexpected result from one of more of the newly recited proteins/halides, which was not readily apparent from the description.

Although the conflicting claims are not identical, they are not patentably distinct from each other because it is obvious to simplify the method by deleting the step of applying ultrasound to the target cells or tissues. Furthermore, the nucleic acid DNA incorporates proteins, notably histones, into its structure and the introduction of proteins by use of organic halides is thus already encompassed by patent 6,638,757 B2.



*Art of record*

As previously recited, and for continuity of record:

Higuchi, et al. (1987), US Patent No. 4,845,233, teach the use of halogenated urea compounds as dermal-penetrating adjuvants to be used instead of DMSO and DMA. In Column 3, lines 67-68 and column 4, lines 1-47, Higuchi et al. disclose the use of halogen substituents on cyclic urea compounds to make an agent for carrying physiologically active agents through body surfaces such as skin and mucous membranes. Higuchi et al. claim halogen substituted cyclic ureas in claim 1 and teach their synthesis and use throughout their disclosure in addition to the initial citation above.

Rajadhyaksha V. J. (1976), US Patent No. 3,989,816, teaches that freons are "typical inert carriers" for use in pharmaceutical preparations (column 5, line 47) and Example 4 (lines 47-54), the latter application comprising Freon 114/12 as 75% of an aerosol formulation.

*Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maury Audet whose telephone number is 571-272-0960. The examiner can normally be reached on M-Th. 7AM-5:30PM (10 Hrs.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MA, 9/19/2007

  
Cecilia J. Tsang  
Advisory Patent Examiner  
Technology Center 1600